

**ABSTRACT OF THE DISCLOSURE**

A processing line includes a process tool, a metrology tool, a tool state monitor, and a sampling controller. The processing tool is configured to process workpieces. The metrology tool is configured to measure an output characteristic of selected workpieces in accordance with a sampling plan. The tool state monitor is configured to observe at least one tool state variable value during the processing of a selected workpiece in the processing tool. The sampling controller is configured to receive the observed tool state variable value and determine the sampling plan for the metrology tool based on the observed tool state variable value. A method for processing workpieces includes processing a plurality of workpieces in a processing tool. A characteristic of selected workpieces is measured in accordance with a sampling plan. At least one tool state variable value is observed during the processing of a particular workpiece in the processing tool. The sampling plan is determined based on the observed tool state variable value.